WHAT IS CLAIMED IS:

1. A method for chemical mechanical polishing copper, barrier material and dielectric material, the method which comprises the steps of:

a) providing a first chemical mechanical polishing slurry wherein said first slurry has a high removal rate on copper and a low removal rate on said barrier material;

b) chemical mechanical polishing a semiconductor wafer surface with said first slurry;

c) providing a second chemical mechanical polishing slurry wherein said second slurry has a high removal rate on said barrier material, comparable removal rate on copper and low removal rate on said dielectric material; and

d) chemical mechanical polishing said semiconductor wafer surface with said second slurry.

2. The method of claim 1 wherein said first slurry has a copper removal rate of greater than about 5000 Å/min and a barrier material removal rate of less than about 500 Å/min.

3. The method of claim 1 wherein said first slurry comprises about 1-10% colloidal silica, about 1-12% potassium iodate, about 0-5% concentrated inorganic acid, and about 0-2% iminodiacetic acid.

4. The method of claim 1 wherein said first slurry comprises about 1-5% fumed silica, about 1-12% potassium iodate, about 0-5% concentrated inorganic acid, and about 0-2% iminodiacetic acid.

5. The method of claim 3 wherein said colloidal silica has a particle size of about 3 to 100 nm.

6. The method of claim 4 wherein said fumed silica has a mean particle size of less than about 700 nm.

7. The method of claim 3 wherein said first slurry further comprises potassium, sodium or ammonium hydroxide in such amounts to modify the pH to a region of about 2 to 4.

8. The method of claim 4 wherein said first slurry further comprises potassium, sodium or ammonium hydroxide in such amounts to modify the pH to a region of about 2 to 4.

9. The method of claim 1 wherein said second slurry has a barrier material removal rate of greater than about 1000 Å/min and a copper removal rate of less than about 1000 Å/min and dielectric material removal rate of < 500 Å/min.

10. The method of claim 1 wherein said second slurry comprises about 1-10% colloidal silica, about 0.1-1% potassium iodate, 0-5 % concentrated inorganic acid and about 0-2% iminodiacetic acid.

11. The method of claim 10 wherein said colloidal silica has a particle size of less than about 100 nm.

12. The method of claim 10 wherein said second slurry further comprises potassium, sodium or ammonium hydroxide in such amounts to modify the pH to a region of about 2 to 5.

13. The method of claim 1 wherein said dielectric material is silicon oxide.

14. The method of claim 1 wherein said barrier material is selected from the group consisting of: tungsten nitride, tantalum, tantalum nitride, silicon doped tantalum nitride, titanium nitride and silicon doped titanium nitride.

15. The method of claim 1 wherein said first and second slurries are stable and have a pH in the range of from about 2 to 5.

16. The method of claim 1 wherein said barrier material is tantalum.

17. The method of claim 1 wherein said barrier material is tantalum nitride or silicon doped tantalum nitride.

18. The method of claim 16 wherein said first slurry has a copper removal rate of greater than about 5000 Å/min and a tantalum removal rate of less than about 500 Å/min and said second slurry has a tantalum removal rate of greater than about 1000 Å/min and a copper removal rate of less than about 1000 Å/min and a dielectric material removal rate of < 500 Å/mi.

19. The method of claim 17 wherein said first slurry has a copper removal rate of greater than about 5000 Å/min and a tantalum nitride removal rate of less than about 500 Å/min and said second slurry has a tantalum nitride removal rate of greater than about 1000 Å/min and a copper removal rate of less than about 1000 Å/min and a dielectric material removal rate of < 500 Å/min.

20. The method of claim 1 wherein said first and second slurries comprise an oxidizing agent.

21. The method of claim 20 wherein said oxidizing agent is an iodate salt.

22. The method of claim 1 wherein said first and second slurries comprise a corrosion inhibitor.

23. The method of claim 1 wherein said first and second slurries comprise a cleaning agent.

24. The method of claim 22 wherein said corrosion inhibitor is a carboxylic acid.

25. The method of claim 24 wherein said carboxylic acid is chosen from the group consisting of: glycine, oxalic acid, malonic acid, succinic acid and nitrilotriacetic acid.

26. The method of claim 22 wherein said corrosion inhibitor is a dicarboxylic acid.

27. The method of claim 26 wherein said dicarboxylic acid has a nitrogen containing functional group.

28. The method of claim 27 wherein said dicarboxylic acid is iminodiacetic acid.

29. The method of claim 23 wherein said cleaning agent is a carboxylic acid.

30. The method of claim 29 wherein said carboxylic acid is chosen from the group consisting of: glycine, oxalic acid, malonic acid, succinic acid and nitrilotriacetic acid.

31. The method of claim 23 wherein said cleaning agent is a dicarboxylic acid.

32. The method of claim 31 wherein said dicarboxylic acid has a nitrogen containing functional group.

33. The method of claim 32 wherein said dicarboxylic acid is iminodiacetic acid.

34. The method of claim 1 wherein said first slurry comprises colloidal silica particles.

35. The method of claim 34 wherein said colloidal silica particles are about 3 to 100 nm in size.

36. The method of claim 34 wherein said colloidal silica particles are spherical.

37. The method of claim 35 wherein said colloidal silica particles are spherical

38. The method of claim 1 wherein said first slurry comprises fumed silica.

39. The method of claim 38 wherein said fumed silica has a mean particle size of less than about 700 nm.

40. The method of claim 1 wherein said first slurry comprises colloidal silica particles.

41. The method of claim 40 wherein said colloidal silica particles are about 3 to 100 nm in size.

42. The method of claim 40 wherein said colloidal silica particles are spherical.

43. The method of claim 41 wherein said colloidal silica particles are spherical.44.

44. The method of claim 42 wherein said particles have a narrow size distribution.

45. The method of claim 42 wherein about 99.9% of said particles are within about 3 sigma of a mean particle size with negligible particles larger than about 500 nm.

46. The method of claim 1 wherein said second slurry comprises colloidal silica particles.

47. The method of claim 46 wherein said colloidal silica particles are about 3 to 100 nm in size.

48. The method of claim 46 wherein said colloidal silica particles are spherical.

49. The method of claim 47 wherein said colloidal silica particles are spherical.

50. The method of claim 1 wherein said second slurry comprises colloidal silica particles.

51. The method of claim 50 wherein said colloidal silica particles are about 3 to 100 nm in size.

52. The method of claim 50 wherein said colloidal silica particles are spherical.

53. The method of claim 51 wherein said colloidal silica particles are spherical.

54. The method of claim 52 wherein said particles have a narrow size distribution.

55. The method of claim 52 wherein about 99.9% of said particles are within about 3 sigma of a mean particle size with negligible particles larger than about 500 nm.

56. The method of claim 1 wherein said first and second slurries comprise silica particles, an oxidizing agent, a cleaning agent and a corrosion inhibitor.